

Fact Sheet
5 November 1999
Revised August, 2001

Southport (AWT) Wastewater Treatment Plant
3800 West Southport Road
Indianapolis, Indiana
NPDES Permit No. IN 0031950

Disclaimer

This fact sheet is not a part of the Southport NPDES permit. To the extent that there are any differences between the permit and the fact sheet, the terms of the permit control.

Revisions

The revisions to this Fact Sheet to reflect the changes in the permit since the draft renewal permit was public noticed in December, 1999 can be found starting on page 20.

Background

This is the proposed renewal of an NPDES Permit for the Southport (AWT) Wastewater Treatment Plant. The Indianapolis Southport AWT Wastewater Treatment Plant is a Class IV, 125 MGD facility. The current permit, issued on September 30, 1985, contained a provision for Outfall 155, a CSO Treatment Facility, to monitor for TRC and fecal coliform once weekly for the life of the permit. This requirement has been dropped since provisions in Attachment A of the Belmont permit supersede older requirements. Both the City of Indianapolis and White River Environmental Partnership (WREP) are listed as the permittee, due to the fact that the City owns the treatment plants and the collection system, but WREP operates them. The City of Indianapolis will be the sole permittee if the contractual relationship between the City of Indianapolis and WREP ceases.

Headworks:

Preliminary treatment consists of screening, pumping, and grit removal.

Primary:

Primary clarification follows preliminary treatment. Primary sludge is pumped to the Belmont (AWT) Wastewater Treatment Plant for further processing. Collected scum is decanted and trucked to a landfill.

Bioroughing System

Primary effluent flows to the biological roughing system where it is pumped to the top of the bioroughing towers. A diversion structure allows a variable amount of flow to be diverted around the bioroughing towers. All bioroughing effluent and any diverted wastewater flow to the nitrification system.

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Nitrification System

The nitrification system consists of two systems. One system is a noncovered aeration tank process followed by circular clarifiers. The other system is a covered aeration tank process followed by rectangular clarifiers. Effluent is collected from the clarifiers and flows to the effluent filter building. Waste activated sludge is pumped to the Belmont (AWT) Wastewater Treatment Plant for processing.

Effluent Filters:

Wastewater flows into the filter building from the final clarifiers. Wastewater flows down through the filters into the effluent header where it flows to the disinfection contact tanks. Effluent filter backwash water is returned to the plant recycle.

Disinfection:

During the disinfection season, the treated wastewater is disinfected prior to discharge to the West Fork of the White River. Chlorination is the current method of disinfection. Dechlorination facilities have also been installed at the tail end of the disinfection contact tanks. The permittee has the flexibility to pursue and use other alternative approved disinfection processes such as UV light.

Effluent Pump Station:

The Effluent Pumping Station is used to pump the treated plant effluent and/or ditch flow, consisting of storm water and infiltration flow to the West Fork of the White River during high river stages.

Solids Processing:

Waste sludges are pumped to the Belmont (AWT) Wastewater Treatment Plant for processing.

Wet Weather Flow Capacity:

During a wet weather event, the standard operating procedures dictate that all available headworks equipment be placed in service. If no equipment is off-line for maintenance, three bar screens, four raw wastewater pumps, and two grit chambers would be in service.

As with the Belmont (AWT) Wastewater Treatment Facility, the period of April 16 through April 22, 1992 was studied to determine the effect of prolonged high flows on primary efficiencies and rate of recovery. Flows during this period ranged between 135 MGD and 160 MGD. Removal efficiencies were low, 20% for TSS and down to 0% for BOD, but there was no evidence of a sludge blanket washout. It is a standard operations procedure at Southport (AWT)

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Wastewater Treatment Plant to keep primary sludge blankets at zero, even during dry weather flows. Removal efficiencies returned to normal immediately following the wet weather event.

The same April 1992 period studied for primary efficiencies was used to determine the impact of prolonged high flow periods on removal efficiencies and rate of recovery. Secondary flow during this period ranged between 135 and 150 MGD. Removal efficiencies decreased for both TSS and BOD, but remained high for ammonia. Removal efficiencies of TSS and BOD deteriorate above flows of 110 MGD.

In summary, under optimal conditions, the Southport (AWT) Wastewater Treatment Plant has a maximum wet weather capacity of 150 MGD primary and 150 MGD secondary treatment capacity. However, the actual wastewater flows that the AWT facilities can treat during wet weather are dependent on a number of factors, including the intensity and duration of the wet weather event, process equipment availability and current process performance characteristics. The key collection system and treatment plant structures and processes that can potentially limit the maximum flow capacity are:

- Î Southern Avenue Diversion Structure
- İ Primary Efficiencies and Sludge Storage
- Đ Nitrification
- Ñ Conditioning Sludge in the Oxygen Nitrification System
- Ö Effluent Filters

Receiving Stream

Discharge from the Southport (AWT) Wastewater Treatment Plant, via Outfall 001, is to the West Fork of the White River which has a $Q_{7,10}$ low flow of 69 cfs (44.5 mgd).

Mass Limitations

The flow used to calculate the mass limitations for eligible parameters contained in this draft renewal is 125 MGD which is the combined design flow of the oxygen nitrification activated sludge facility and the air nitrification plant at Southport (AWT) Wastewater Treatment Plant.

Effluent Limitations and Rationale

Flow and pH

Flow monitoring is required for all NPDES Permits and this information is necessary for calculating pounds/day of pollutants discharged. The pH shall be no less than 6.0 nor greater than 9.0 s.u. as required by Indiana Water Quality Standards.

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Minimum Water Quality Requirements

The discharge from any and all point sources regulated within this permit shall not cause receiving waters, including the mixing zone, to contain substances, materials, floating debris, oil, or scum: that will settle to form putrescent or otherwise objectionable deposits; that is in amounts sufficient to be unsightly or deleterious; That produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance; which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans; and, which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

CBOD₅ and Total Suspended Solids

The CBOD₅ limitation has been set in the draft permit in accordance with the October 28, 1996 wasteload allocation (WLA). The modeled limitation for CBOD₅ remains essentially unchanged from the TBOD₅ parameter in the previous expired permit. The total suspended solids limitation was carried over from the expired permit. Effluent data indicate general compliance with both of these parameters except perhaps for excursions obviously caused by wet weather conditions.

Ammonia-Nitrogen: [Refer to the Post Public Notice Addendum for NH₃-N]

This limitation has been set in accordance with the October 28, 1996 wasteload allocation. The ammonia criterion has been recalculated in accordance with the site-specific water quality criterion submitted by the permittee. Please reference the discussion contained in the section below entitled Site-Specific Water Quality Criteria. As the modeled effluent limits are substantially more stringent than in the expired permit, this parameter has been included in the schedule of compliance to allow the permittee adequate time to plan and initiate removal.

Dissolved Oxygen [Refer to the Post Public Notice Addendum for D.O.]

The dissolved oxygen is limited to 8.0 mg/l as a daily minimum summer and 4.0 mg/l as a daily minimum winter in the final effluent during an interim period while interim ammonia-nitrogen limits are in effect. The final dissolved oxygen limits shall be 7.0 mg/l as a daily minimum during the summer monitoring period and 4.0 mg/l as a daily minimum during the winter monitoring period. The interim dissolved oxygen limitations are identical to those contained in the previous permit. As IDEM has utilized the old matrix WLA for conventional pollutants, excluding ammonia-nitrogen, the summer limit is being proposed as 7.0 mg/l when the final ammonia limits go into effect. The new effluent limits take into account oxygen balance and have taken into consideration the impact of ammonia-nitrogen.

Total Residual Chlorine (TRC) [Refer to the Post Public Notice Addendum for TRC]

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This renewal permit requires the effluent shall be disinfected on a continuous basis such that excursions above the *E. coli* limitations do not occur from April 1 through October 31, annually. Practice of chlorination for any reason from November 1 through March 31 shall result in the residual chlorine restrictions and monitoring requirements being effective whenever the disinfectant is used.

Since the facility has dechlorination capabilities, the renewal permit requires that the total residual chlorine in the final effluent not exceed 0.02 mg/l as a daily maximum, nor 0.01 as a monthly average. The NPDES permit contains a twelve (12) month schedule of compliance to allow for calibration of the dechlorination equipment. Although conditions in 327 IAC 5-2-11.1 require the establishment of water quality based effluent limitations (WQBEL) in the discharge permit, compliance with this permit will be demonstrated if the observed effluent concentrations are less than the limit of quantitation (0.06 mg/l). If the measured effluent concentrations are above the water quality-based permit limitations and above the limit of detection specified by the permit in any of three (3) consecutive analyses or any five (5) out of nine (9) analyses, the discharger is required to re-evaluate their chlorination/dechlorination practices to make any necessary changes to assure compliance with the permit limitation for TRC.

Effluent concentrations less than the limit of quantitation shall be reported on the discharge monitoring report forms as the actual value. Effluent concentrations less than the limit of detection shall be reported on the discharge monitoring report forms as less than the value of the limit of detection. Compliance with the permit limitation will be demonstrated if the observed effluent concentrations are less than the limit of quantitation.

The permittee may determine a case-specific limit of detection or limit of quantitation using the analytical method specified, or any other test method which provides a method detection limit equal to or less than the specified limit of detection and which is approved by the IDEM prior to use. The limit of detection shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the limit of detection. Other methods may be used if first approved by the IDEM.

E. coli [Refer to the Post Public Notice Addendum for *E. coli*]

Bacterial concentration limits have been proposed for inclusion in the permit based on 327 IAC 2-1-6(d). The permit issued September 30, 1985 requires fecal coliform limits, but the first public noticed draft permit renewal proposed a change from fecal coliform to *E. coli* limits. The permittee has submitted a variance request from the daily maximum effluent limitation for *E. coli*.

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Site Specific Water Quality Criteria

The permittee in November, 1995, submitted to IDEM a set of seven reports as supplemental information for the Belmont (AWT) Wastewater Treatment Plant and Southport (AWT) Wastewater Treatment Plant for renewal of their NPDES permits. Out of the seven reports, a set of three reports exclusively deals with the development of site-specific water quality criteria (WQC) for nine pollutants, both metals and non-metals.

The methodology used for the development of site-specific WQC was the recalculation procedure for almost all the pollutants and the water effect ratio (WER) method for copper as a screening test. All parameters in the study are discussed below even though not all of the parameters have been limited in the proposed NPDES permit.

The recalculation procedure allows modification in the National Acute Toxicity Data Set on the basis of addition of new data from resident species or eliminating data for species that are not representative and/or not resident at the site in a water body. The permittee has used the provisions in 327 IAC 2-1-8.2 and 327 IAC 2-1-8.3 to recalculate WQC for the parameters noted below. Application of the Indiana Rules allows a permittee to eliminate several cold water species (Salmonids), a few warmwater fishes and possibly a few macroinvertebrates (e.g. Crayfishes) which may not be truly representative of the site or a water body.

While the elimination of coldwater species from the database results in not meeting the five family requirement of acute (or chronic) toxicity data as required by 327 IAC 2-1-8.2(2)(A) or the eight family requirement of USEPA's procedure, this Agency has decided to implement the site-specific study as follows:

Aluminum:

The State or National acute and chronic WQC are based on acute toxicity data from 14 genera or Genus Mean Acute Values (GMAV) and an Acute to Chronic (A-C) Ratio of 2. The USEPA calculated final acute value (FAV) is 1496 Fg/l (748 Fg/l acute aquatic criterion, AAC). Since the chronic WQC (CAC) calculated from the FAV and the A-C ratio of 2 were relatively high (748 Fg/l) as compared to the aluminum concentration which produced toxic or biological effects in Striped Bass and Rainbow Trout, the calculated chronic value was lowered to 87 Fg/l by USEPA to protect the two species.

The permittee has calculated the site-specific acute and chronic WQC using GMAVs from 11 genera after eliminating toxicity data for three Salmonids that are not resident to and do not occur at the site in Indiana warm water, and using an A-C ratio of 2, as used by USEPA. As a result of this modification, the new data set has resulted in a site-specific FAV of 1982 Fg/l (991 Fg/l AAC) and a chronic WQC (CAC) of 991 Fg/l.

Although Salmonid species are not expected to be resident species in the West Fork of the

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White River, the site-specific chronic WQC calculated by the permittee still appears to be high and not sufficient to protect Striped Bass and other similar surrogate species from the same and other related families that are expected to be present in the White River. The chronic WQC (CAC) has been lowered from the calculated 991 Fg/l to 174 Fg/l to protect Striped Bass.

Cadmium:

The State or National acute WQC are based on acute toxicity data from 44 genera or GMAVs. The USEPA computed FAV is 8.92 Fg/l (4.46 Fg/l AAC). Since the calculated FAV was not protective of Rainbow Trout, the FAV was lowered to 3.589 Fg/l (1.8 Fg/l AAC) by USEPA to protect the Salmonid species (Rainbow Trout). For calculation of Chronic WQC (CAC), no A-C ratio was used by USEPA. The chronic WQC was calculated using chronic toxicity data available from 13 genera or Genus Mean Chronic Values (GMCVs). The cumulative probability was calculated using $n=44$ because the six most sensitive species in the acute toxicity database were represented in the chronic data set. The USEPA computed final chronic value or chronic WQC (CAC) for cadmium is 0.66 Fg/l ($n=44$).

The permittee have calculated the site-specific acute WQC based on acute data from 39 genera or GMAVs after eliminating data for four species of Salmonids plus elimination of data for Guppy, Flagfish and Northern Squawfish which are not expected to be resident or to occur in the West Fork of the White River and/or to be representative of Indiana warm waters.

The new site-specific FAV computed by the permittee is 29.92 Fg/l (14.96 Fg/l AAC) versus the existing FAV of 8.92 Fg/l that was lowered to 3.589 Fg/l by USEPA to protect the Rainbow Trout. For calculation of site-specific chronic WQC, as with the acute toxicity data set, three species of Salmonids plus Flagfish were eliminated and toxicity data for the remaining nine genera out of thirteen genera or GMAVS were used by the permittee. Also the same as USEPA, no A-C ratio was used. The cumulative probability was calculated using $n=39$ since three of the most sensitive species in the acute toxicity database were represented in the chronic toxicity data set. At a water hardness of 50 mg/l as CaCO_3 , the newly computed site-specific chronic WQC (CAC) turned out to be 0.35 Fg/l ($n=39$) which is much lower than the existing CAC of 0.66 Fg/l.

Recalculation of chronic site-specific WQC for cadmium:

The attempt by the permittee to recalculate the site-specific WQC by deleting at least seven non-resident species that do not occur in the West Fork of the White River had resulted in moving the acute WQC (AAC) value upward from 1.8 Fg/l to 14.92 Fg/l. However, deleting the same or other non-resident species from the chronic toxicity database to recalculate the chronic WQC had resulted in changing the criterion value to be more stringent, 0.35 Fg/l versus existing WQC value of 0.66 Fg/l.

Because of failure in the attempt to change the chronic WQC by recalculation using the data deletion approach, the permittee has attempted to recalculate the chronic WQC by adding the new toxicity data available in the literature for at least two species, *Daphnia magna* and *Daphnia pulex*, to the national database. In the 1984 EPA cadmium criteria document at 50 mg/l hardness

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the SMCV and GMCV for the *Daphnia magna* species (Cladoceran) is 0.1354 Fg/l, which enables it to rank as one of the most sensitive species (Sensitivity rank 1) to cadmium.

Some of the new chronic values available in the literature range from 0.3 Fg/l - 3 Fg/l (geometric mean SMCV = 0.9 Fg/l) for *Daphnia magna* to 2.2 Fg/l - 4.1 Fg/l (geometric mean SMCV = 3.1 Fg/l) for *Daphnia pulex* resulting in a geometric mean GMCV of 1.67 Fg/l for the genus *Daphnia*.

As pointed out by Commonwealth Biomonitoring, the new GMCV (1.67 Fg/l) is significantly different from the GMCV of 0.1354 Fg/l for the same genus (*Daphnia*) listed in the 1984 EPA criteria document for cadmium and shows a difference of at least 12 fold. Realizing this difference, Commonwealth Biomonitoring contends that the data value (GMCV of 0.1354 Fg/l for *Daphnia*) listed in the criteria document is an outlier obtained from an unpublished manuscript by G. A. Chapman of USEPA and therefore must be replaced or combined with the new data value (GMCV 1.67 Fg/l for *Daphnia*) to calculate the site-specific WQC. Commonwealth has also proposed and demonstrated that deleting the existing GMCV for the *Daphnia* as an outlier or addition of the new GMCV to the national database would result in changing the chronic WQC from 0.66 Fg/l to 0.97 or 0.92 Fg/l respectively.

IDEM considers neither of the recommendations proposed by the permittee or their consultant as acceptable. The USEPA approved existing GMCV (0.1354 Fg/l) for *Daphnia* cannot be discarded nor the new data be added at the present time because the new GMCV (1.67 Fg/l) for the same genus differs by a factor of ten or more and any new value that differs so much is not recommended by USEPA to be used in the water quality criteria calculations. See Guidelines for Deriving National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, Federal Register 50, 30792, July 29, 1985. Additionally, the USEPA is aware of the new chronic toxicity values and to date has not changed the GMCV for *Daphnia* data to recalculate the chronic WQC under the Great Lakes Initiative (GLI) Program.

However, for the GLI, USEPA has reevaluated the chronic toxicity data from the criteria document and determined that the toxicity data (GMCV 0.1918 Fg/l) by Hatakeyama and Yasuno for *Moina macrocopa*, (another Cladoceran species with a sensitivity rank of 2, which ranks next to *Daphnia* in the national database) not be included in the criteria calculation because the concentrations of cadmium in test solutions were not measured during the test. Based on this information, IDEM can also delete this species in addition to the ones already deleted by the permittee to recalculate the site-specific WQC.

Taking the above approach, the site-specific chronic WQC has been recalculated by IDEM. For this purpose, the cumulative probability was calculated using $n = 39$ because two of the most sensitive species (*Daphnia* and *Aplexa*) in the acute database were also present in the chronic toxicity data set. These modifications to the national chronic database have resulted in a final chronic value of 1.16 Fg/l which is not only higher than the existing 0.66 Fg/l chronic criterion but is also higher than the 0.97 and 0.92 Fg/l chronic WQC calculated by the permittee by deletion and/or addition of the new toxicity data set to the chronic national data set. On the basis of site-specific recalculation, the acute and chronic WQC will change from 1.8 Fg/l and 0.66

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Fg/l to site-specific WQC of 14.96 Fg/l and 1.16 Fg/l respectively.

Hex. Chromium:

Effluent limitations and monitoring requirements have not been included in the renewal permit. This agency believes that Hex. chromium is a strong oxidizer that would be reduced by the organic matter in sewage and, therefore, is a concern only for direct industrial dischargers.

Copper:

The State or National acute and chronic WQC are based on acute toxicity data from 41 genera or GMAVs and A-C ratio of 2.82. The USEPA computed FAV is 18.46 Fg/l (9.23 Fg/l AAC) and 6.54 Fg/l as the chronic WQC (CAC). The permittee have calculated the site-specific acute and chronic WQC using acute toxicity data from 34 genera or GMAVs after eliminating data for seven Salmonid species and four other genera that are not expected to be resident or do not occur in the West Fork of the White River and/or are not representative of the warm waters in Indiana. These modifications to the National data set by the permittee have resulted in a site-specific FAV of 19.51 Fg/l (9.76 Fg/l AAC) and a site-specific chronic WQC (CAC) of 6.91 Fg/l (using the A-C ratio of 2.82) which is slightly higher than the existing chronic WQC of 6.54 Fg/l.

Copper using Water Effect Ratio (WER):

To develop site-specific WQC for copper, the permittee have also conducted a series of preliminary acute toxicity tests in site water collected from upstream, downstream and simulated receiving water by mixing effluent from Belmont (AWT) Wastewater Treatment Plant and Southport's (AWT) Wastewater Treatment Plant and the West Fork of the White River in 40:40:20 ratios, and in reconstituted lab water. All acute toxicity tests were of the 48-hour duration and were conducted using mostly Ceriodaphnia species as one of the primary test organisms. Some toxicity tests were static and some were static/renewal as indicated by Commonwealth Biomonitoring, consultants retained by the permittee. Reagent grade copper chloride or copper sulfate was used as the test material to determine copper toxicity and LC₅₀ values in site and lab waters.

The preliminary acute toxicity tests indicated that copper is less toxic in site water than in the reconstituted lab water. In most of these toxicity tests a varied number of test solutions were used. Out of these, at least two test solutions produced 100% mortality and one test solution 0% mortality. Results derived from such toxicity tests could not be used to draw meaningful conclusions, much less obtain an accurate or definitive LC₅₀ value and finally a WER from the LC₅₀ values determined in site and lab waters. In spite of the drawbacks as noted above, Commonwealth Biomonitoring has concluded that there is a strong indication of difference in toxicity of copper between site and lab waters. According to Commonwealth, the WER between site and lab waters appear to be around 2.4 for site water collected on 9/22/94. If the above findings are accurate, they need to be further substantiated with additional toxicity tests

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conducted with primary test organisms and a secondary test organism such as *Pimephales* using a 48-hour static test or *Gammarus* 48-hour static/renewal test.

In addition, the Total to Dissolved (T/D) metal ratio was also determined in site and lab waters. Site and lab waters were analyzed for total and dissolved metal after initial spiking with copper metal. Analysis revealed that there was no significant difference between T/D metal ratio as the ratio between T/D metals was 0.98 or 1. In other words, the T/D metal ratio could not be used to change the existing WQC or the permit limits for copper for the permittee. The permittee have also indicated that they would be conducting additional toxicity studies in site and lab waters with the purpose of developing a WER to derive site-specific a WQC. The current IDEM interpretation of 327 IAC 2-1-8.2 and 327 2-1-8.3 is that provisions for the development of site-specific WQC using the WER approach are not clearly defined and could not be used by the permittee for this purpose.

Lead:

The State or National acute and chronic WQC are based on acute toxicity data from ten genera or GMAVS. The USEPA computed FAV is 67.54 Fg/l (33.77 Fg/l AAC). The chronic WQC was determined to be 1.32 Fg/l by USEPA, which was obtained by dividing the FAV (67.548 Fg/l) with an A-C ratio of 51.29 obtained from six known A-C ratios, including one from saltwater species.

The permittee have calculated the site-specific acute and chronic WQC based on acute toxicity data from seven genera or GMAVs after eliminating data for four species (two Salmonid species and one species each of Guppy, Bluegill, and Fathead Minnow), implying that all the identified species are either not resident in the West Fork of the White River and/or are not representative of the warm waters in Indiana.

But out of the four species indicated by the permittee, as a consistent policy for deriving site-specific WQC same as used for other pollutants discussed here, this Agency concurs with the deletion of toxicity data for the two coldwater species (Brook trout and Rainbow Trout) and for Guppy, but not for the removal of toxicity data for the two additional species (Bluegill and Fathead Minnow). In addition, the deletion is contraindicated for the following reasons:

1. The USEPA database for lead is already short by at least one species or a family (vertebrate or invertebrate) to meet the USEPA eight family requirement for calculation of WQC. Deleting the Salmonids or coldwater species and Guppy will reduce the already deficient data by two additional families. Any additional deletion of species (Fathead Minnow and Bluegill) as indicated by the permittee as a possibility, would further lessen the toxicity data (especially for lead) by two additional families (Cyprinidae and Centrarchidae from the Class Osteichthyes) which are both required by both USEPA and IDEM to calculate the WQC for any metal or pollutant.

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2. Even if it is assumed that Fathead Minnow and Bluegill are not expected to be the resident species in the West Fork of the White River, the two named species may be surrogates for Yellow Bass, Striped Bass, Smallmouth Bass, Golden Shiner, Common Carp and some other species from their respective families which may not have been tested for toxicity. Besides, the WQC calculated from lesser number of genera or GMAVs than is required would generally result in lowering the criterion as was the case with the recalculation done by the permittee. The site-specific FAV calculated was 52.84 Fg/l using the seven GMAVs data versus FAV of 67.54 Fg/l calculated by USEPA using the ten GMAVs data from seven different aquatic families.
3. Moreover, unnecessary deletion of toxicity data from the National Toxicity Database may result in selective deletion of freshwater organisms. Such an approach is not recommended under the new guidance from EPA. See Appendix B, "The Recalculation Procedure of Interim Guidance on Determination and Use of Water Effect Ratios for Metals."
4. Recalculation of WQC, besides deletion, also involves addition of new toxicity data if such data has been approved by the USEPA and IDEM. In fact, this is what is absolutely needed with regard to the calculation of WQC for lead. Recently, new acceptable acute toxicity data for lead have become available and these new data that were developed under a USEPA contract at the Lake Superior Research Institute, Superior, Wisconsin would be used by USEPA to obtain Tier 1 acute aquatic criterion for lead in the Great Lakes Initiative (GLI) Program. The new toxicity data available for lead comes from two species, one Annelid, *Lumbriculus variegatus*, GMAV 620 Fg/l at 50 mg/l hardness and the other from an Amphibian, *Rana catesbiana*, GMAV 12,000 Fg/l at 50 mg/l hardness.

The recalculation of WQC for lead using GMAVs from the above mentioned two species and those in the USEPA National Toxicity Database yields the site-specific FAV calculated by IDEM of 89.996 Fg/l (44.5 Fg/l AAC). In fact, this new FAV is greater than the FAV (52.84 Fg/l) calculated by the permittee from just seven GMAVs and is even higher than the FAV of 67.54 Fg/l computed by USEPA using the GMAVs from ten different genera from seven different aquatic families.

5. For calculation of chronic WQC (CAC) for lead, the permittee have used more than one A-C ratio. Out of these, the A-C ratio of 24.4 derived from all freshwater organisms listed in the EPA Lead Criteria Document (excluding the one for the saltwater species (Mysid) plus the A-C ratio of 6.4 for Fathead Minnow available in the literature) appear acceptable and could be used for Chronic WQC (CAC) calculation. Deletion of A-C ratio for the coldwater species or Salmonids (as indicated by the permittee) in the report is not acceptable, because this would result in selective deletion of freshwater organisms (Salmonids) as discussed above. Such an approach is not recommended under the 1994 new guidance from USEPA.

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Based on previous IDEM policy, as well as recent guidance from USEPA, it is recommended that the chronic WQC (CAC) for lead derived from site-specific FAV (89.996 Fg/l) divided by the A-C ratio of 24.4 from all freshwater organisms including the recent one for Fathead Minnow would be 3.65 Fg/l as compared to the existing chronic WQC of 1.32 Fg/l or 2.165 Fg/l calculated by the permittee.

Mercury: [Refer to the Post Public Notice Addendum]

The State or National acute and chronic WQC are based on acute toxicity data from 28 genera or GMAVs. The USEPA computed FAV is 4.857 Fg/l (2.428 Fg/l AAC). The chronic WQC (CAC) was determined to be 1.302 Fg/l by USEPA which was obtained by dividing the FAV (4.857 Fg/l) with an A-C ratio of 3.731 obtained from the two known A-C ratios (4.498 and 3.095) including the one from saltwater species, Mysid.

To protect human health, a freshwater chronic WQC (CAC) is currently based on the final residual value of 0.012 Fg/l which is substantially below the calculated aquatic life chronic WQC (CAC) of 1.302 Fg/l. The residual value was obtained by dividing the 1 ppm (1 mg/Kg) FDA Action Level for total mercury by the bioconcentration factor of 81,700 for methyl mercury. It is also known that a concentration of inorganic mercury above 0.23 Fg/l in water causes significant adverse effects in Fathead Minnow and causes the concentration of total mercury in whole fish to exceed 1 ppm (1 mg/Kg). Therefore, discharges of low levels of mercury should be acceptable if the concentrations of methyl mercury in edible portions of fish do not exceed the FDA Action Level (1 ppm whole body, 0.5 ppm edible portion).

The permittee have calculated the site-specific acute and chronic WQC based on acute toxicity data from 22 genera or GMAVS after eliminating data for six species (two Salmonids, two Crayfish species, and one species each of Guppy and Tilapia) that are not expected to be resident or occur in the West Fork of the White River and/or are not representative of the warm waters in Indiana. These changes to the national database have resulted in a site-specific FAV of 2.68 Fg/l (1.34 Fg/l AAC) that is slightly different from the FAV of 3.56 Fg/l calculated by the permittee. The site-specific chronic WQC (CAC) calculated from the site-specific FAV (2.68 Fg/l) using the 3.731 A-C ratio (same as given in the EPA criteria document) would be 0.718 Fg/l, not 0.954 Fg/l, as computed by the permittee.

The site-specific aquatic WQC and the State or National aquatic WQC is moot because the mercury residual value of 0.012 Fg/l to protect human health is more restrictive and would be used for both permit limit calculations and/or monitoring of mercury in point source discharges.

Zinc:

The State or National acute and chronic WQC are based on acute toxicity data from 35 genera or GMAVs. The USEPA computed FAV is 130 Fg/l (65.05 Fg/l AAC). The chronic WQC (CAC) was determined to be 58.92 Fg/l by USEPA which was obtained by dividing the FAV (130 Fg/l) with an A-C ratio of 2.208 derived from four species (Daphnia, Chinook Salmon, Rainbow Trout including saltwater species Mysid) out of seven A-C ratios for seven species

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available in the EPA criteria document.

The permittee have calculated the site-specific acute and chronic WQC based on acute toxicity data from 27 genera or GMAVS after eliminating data for eight species (three salmonid species, Tilapia Longfin Dace, Northern Squawfish, Guppy, and Flagfish). To recalculate the site-specific WQC, the permittee have changed the GMAV of Striped Bass by averaging unacceptable and acceptable data from the zinc criteria document and changed the species sensitivity rank from a highly sensitive rank of 2 to an insensitive rank of 21. IDEM considers this change unacceptable. The mean acute values, 13,450 Fg/l and 119.4 Fg/l for the Striped Bass differ by a factor of 10 or more and could not be combined to develop a mean GMAV as was done by the permittee. The lower species mean acute value 119.4 Fg/l has been approved and used by USEPA to calculate the WQC and it is recommended that the permittee also use this value to calculate the site-specific WQC without modification.

The recalculation of WQC was performed by IDEM using GMAVs from 27 genera without changing the sensitivity rank for *Morone saxatilis*. These modifications to the national database have resulted in a site-specific FAV of 88.076 Fg/l (44.038 Fg/l AAC) which is significantly lower than the FAV value of 164.1 Fg/l (82.05 Fg/l AAC) calculated by the permittee by artificially changing the sensitivity rank for the Striped Bass. The calculated site-specific FAV value (88.076 Fg/l) is also considerably lower than the existing FAV of 130 Fg/l in the criteria document.

For calculation of chronic WQC (CAC) when the site-specific FAV (88.076 Fg/l) is divided by the A-C ratio of 2.208, same as in the zinc criteria document, results in a chronic WQC of 39.89 Fg/l and not 74.34 Fg/l as calculated by the permittee by changing the sensitivity rank for the Striped Bass. The recalculated site-specific chronic WQC (39.89 Fg/l) would be lower than the existing chronic WQC of 58.92 Fg/l. The site-specific chronic WQC would also be much less (only 20.60 Fg/l) even if the site-specific FAV (88.076 Fg/l) is divided by the A-C ratio of 4.276 obtained from all known freshwater A-C ratios, excluding the one for the saltwater species (Mysid). In other words, recalculation of criteria, even after the elimination of eight non resident species from the national database, would result in moving the acute and chronic criteria values downwards but not upwards as expected by the permittee.

Ammonia-Nitrogen: [Refer to the Post Public Notice Addendum]

The State or National acute and chronic WQC for dissolved or unionized ammonia versus ionized ammonia are based on acute toxicity data from 34 genera or GMAVs. The USEPA-computed FAV for unionized ammonia in the 1984 criteria document is 0.7 mg/l, but was recomputed to 0.8 mg/l using the adjusted SMAV for Mountain Whitefish. This in turn was lowered to 0.52 mg/l (0.26 mg/l AAC) to protect the Rainbow Trout. It must be noted that in the criteria document empirical equations relate ammonia toxicity to reference pH of < 7-9 and ambient temperature 20EC and 25EC.

The chronic WQC (CAC) was determined to be 0.033 mg/l by USEPA which was obtained by dividing the FAV (0.52 mg/l) with an A-C ratio of 16 obtained from the five known A-C ratios.

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Recently the USEPA has removed the controversial A-C ratio for the White Sucker species. This results in a new A-C ratio of 13.5 instead of 16. The result of these changes is the new chronic WQC (CAC) which is equivalent of 0.0385 mg/l versus the old criteria value of 0.033 mg/l. If protection of Salmonids (Rainbow Trout) is not a factor, the chronic WQC (CAC) at pH < 8-9 would be 0.052 or 0.059 mg/l, respectively, if the calculated FAV (0.7 mg/l) or the recomputed FAV (0.8 mg/l) were used, or 0.0385 mg/l if the 0.52 mg/l as the lowered FAV was used and divided by the revised A-C ratio of 13.5.

The permittee have calculated the site-specific acute and chronic WQC for dissolved or unionized ammonia based on acute toxicity data from 29 genera or GMAVs after eliminating data for several species from the national database which are not expected to be resident or to occur in the West Fork of the White River and/or to be representative of the warm waters in Indiana. This included eight Salmonid species, Guppy, and Mountain Whitefish. These modifications to the national database by the permittee have resulted in a site-specific FAV of 0.83 mg/l (0.42 mg/l AAC) which is slightly higher than the USEPA-calculated or computed FAVs of 0.7 or 0.8 mg/l, but significantly higher than the 0.52 mg/l lowered FAV for the unionized ammonia.

For calculation of the site-specific WQC (CAC) when the site-specific FAV (0.83 mg/l) is divided by the 13.5 A-C ratio proposed by USEPA recently, the resulting chronic WQC (CAC) for unionized ammonia is 0.062 mg/l. This is slightly higher than the existing chronic WQC of 0.052 or 0.059 mg/l obtained from calculated or recomputed FAVs of 0.7 or 0.8 mg/l respectively, but significantly higher as compared to the 0.0385 mg/l chronic WQC obtained from lowered FAV of 0.52 mg/l.

Based on the 1994 Interim Guidance from EPA, the recalculation of site-specific WQC, as calculated by the permittee, and the computed values for the unionized and total ammonia appear acceptable.

Cyanide: [Refer to the Post Public Notice Addendum]

The State or National acute and chronic WQC are based on acute toxicity data from 15 genera or GMAVs. The USEPA computed FAV is 62.68 Fg/l but was lowered to 44.73 Fg/l to protect Rainbow Trout (22.36 Fg/l AAC). The chronic WQC (CAC) was determined to be 5.22 Fg/l by USEPA. This value was obtained by dividing the lowered FAV (44.73 Fg/l) with an A-C ratio of 8.568 which was obtained from the five known A-C ratios excluding the one A-C ratio from resistant Isopod species which was significantly different as compared to the others. However, the chronic WQC (CAC) would be 7.32 Fg/l if the real computed FAV (62.68 Fg/l) was divided by the same A-C ratio (8.568), provided Rainbow Trout protection was not a factor.

The permittee have calculated the site-specific acute and chronic WQC based on acute toxicity data from 12 genera or GMAVs after eliminating data for three species (two Salmonids and one Guppy) that are not expected to be resident or to occur in the West Fork of the White River and/or to be representative of the warm waters in Indiana. These modifications to the national database by the permittee have resulted in a site-specific FAV of 91.56 Fg/l. (45.78 Fg/l AAC).

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For calculation of chronic WQC (CAC), two sets of A-C ratios were used by the permittee. In one set, except for the resistant Isopod, an A-C ratio of 8.57 derived from all freshwater organisms was used. In the other set, after excluding the 10.59 A-C ratio for the coldwater species, an A-C ratio of 7.98 (correct A-C ratio 13.65) was derived from the rest of the freshwater species and the resistant Isopod. The site-specific FAV when divided separately by the three A-C ratios (8.57, 7.98, or 13.65) has resulted in a chronic WQC (CAC) of 10.78 Fg/l, 11.47 Fg/l, and 11.47 Fg/l, respectively. Out of the two approaches used by the permittee to recalculate the chronic WQC, IDEM concurs with using the A-C ratio of 8.57 which is the same as USEPA obtained from all freshwater organisms, except for the resistant Isopod.

In contrast to this, if the A-C ratio of 7.98 was used, this would amount to removing the A-C ratio from a freshwater Salmonid species and including the A-C ratio from the resistant Isopod. The correct A-C ratio would be 13.65 from all five known A-C ratios and not 7.98 as calculated by the permittee. Selective deletion of freshwater organisms such as Salmonids, Guppy, and/or other species is not recommended under the new guidance from EPA. Moreover, as a consistent IDEM policy, removal of A-C ratio for the Salmonids or other coldwater species was not allowed in the past to other permittee to calculate site-specific WQC for metals or non-metals.

Based on previous IDEM policy, as well as the recent interim guidance from EPA, it is recommended that the chronic WQC (CAC) derived from site-specific FAV (91.56 Fg/l) when divided by the A-C ratio of 8.57 from all freshwater organisms except for the resistant Isopod would be 10.68 as compared to the existing chronic WQC (CAC) of 5.22 Fg/l.

The average design flow of 120 MGD and 125 MGD for the Belmont (AWT) Wastewater Treatment Plant and Southport (AWT) Wastewater Treatment Plant, respectively, were employed in the analysis based on Indiana Rule 327 IAC 2-1 and the permittee site specific water quality criterion for cadmium, copper, lead, cyanide, and ammonia-nitrogen. The wasteload allocation was conducted by the Modeling and Engineering Services Section (MESS) after reviewing all available data. Upstream water quality at Harding Street and downstream water quality parameters were utilized in the model. This data was obtained from IDEM's 1994 and 1995 surveys and Indianapolis Public Works monitoring of the White River in this area.

Final Limitations For Metals and Non Metals

All metals currently limited in the permit issued September 30, 1985 were subjected to a determination for reasonable potential to cause an excursion above ambient criteria utilizing effluent data in accordance with the procedure outlined in EPA Document 505/2-90-001, Technical Support Document for Water Quality-based Toxics Control. Outliers were examined in accordance with procedures outlined in Barnett, V. and Lewis, T. (1993) Outliers in Statistical Data, 3rd Edition and EPA Document 530-R93-003, Statistical Training Course for Ground-water Monitoring Data Analysis.

Original inclusion for metals effluent limitations and monitoring requirements were most often based on a Best Professional Judgement (BPJ) determination to exceed the water quality standard based on those metals listed in Standard Form A-Municipal Section IV Industrial Waste

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Contribution to Municipal System and Section II, Basic Discharge Description, Part 15 Additional Wastewater Characteristics and/or available information on metals constituents in the treatment plant sludge. This original inclusion did not entail any type of statistical examination. Removal and/or continued inclusion will not violate antibacksliding provisions of 327 IAC 5-2-10(11)(A), (B), & (C).

Most of the data sets provided by the permittee contained censored data points in excess of 15% of the total data provided with variable MDLs. No adjustments were made to these data points. EPA guidance proposes simple substitution for data sets with no more than 15% censored values. For those data sets containing 15% to 50% censored values, Cohen's Method is recommended by EPA. Cohen's adjustment requires that the detection limit be constant, thus, this method was discarded from consideration. The use of a Trimmed mean or Winsorized mean requires replacement of, or elimination of, values on both tails of the data set, thus the examination for reasonable potential would be of little value with the right data tail truncated. The data sets with more than 15% censored data points were treated as though all data were uncensored in order to preserve the right data tail.

Certain conditions will be attached to those metals for which a specific determination has been made to delete effluent limitations and monitoring requirements. Influent monitoring will still be required to ascertain continuing compliance with pretreatment requirements. A reopener will stipulate addition of effluent limits and monitoring requirements to the permit in the event of a substantial increase in influent quantities or a TRE traces a particular metal as causation of effluent toxicity.

For the purposes of enforcing and maintaining adequate legal authority in the permittee Sewer Use Ordinance, the Control Authority shall still develop and maintain local limits for all metals no longer monitored in the effluent in its technical reevaluation of the local limits.

Cadmium:

Cadmium is currently limited to 0.02 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to maintain effluent limits and monitoring requirements since the projected maximum receiving concentration (RWC) is greater than the ambient criterion for this parameter. The expired permit limits for cadmium will be carried over to the proposed draft permit for a maximum of 36 months to allow the permittee adequate time to implement any needed additional construction at the POTW and/or modification to local limits for industrial contributors in order to effectively meet the new proposed effluent limitations of 3.93 Fg/l as a monthly average and 9.15 Fg/l as a daily maximum. These wasteload allocation values have been rounded to three decimal places and converted to mg/l for incorporation into the permit

Chromium:

Chromium is currently limited to 0.25 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to delete effluent limits and monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion

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for this parameter.

Copper:

Copper is currently limited to 0.04 mg/l as a monthly average and 0.1 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to delete effluent limits and monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion for this parameter.

Cyanide: [Refer to the Post Public Notice Addendum]

The permittee did not submit effluent data for examination for this parameter. The expired permit limits for amenable cyanide will be carried over to the proposed renewal permit for a maximum of 36 months to allow the permittee adequate time to implement any needed additional construction at the Southport (AWT) Wastewater treatment Plant and/or modification to local limits for industrial contributors in order to effectively meet the new proposed effluent limitations. The final limit for cyanide is for total cyanide.

Lead:

Lead is currently limited to 0.06 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to delete effluent limits and monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion for this parameter.

Nickel:

Nickel is currently limited to 0.5 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to delete effluent limits and monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion for this parameter.

Zinc:

Zinc is currently limited to 1.0 mg/l as a daily maximum in the permit issued September 30, 1985. It is proposed to delete effluent limits and monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion for this parameter.

Arsenic:

Arsenic was not limited in the permit issued September 30, 1985 but had been proposed for initial monitoring during the first public notice because the review of all available data indicated high concentrations in the effluent and/or the receiving stream. It is proposed to delete effluent

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monitoring requirements since the projected maximum Receiving Water Concentration (RWC) is less than the ambient criterion for this parameter.

Mercury: [Refer to the Post Public Notice Addendum]

Mercury shall be monitored on a quarterly basis for the life of the permit. The permittee contracted with Commonwealth Biomonitoring, Inc. to evaluate data on mercury levels in fish tissue in the White River, upstream and downstream of the permittee wastewater treatment facilities. The data submitted does not support elimination of effluent limitations and monitoring requirements for mercury; for risks to human health, IDEM is currently looking at fish tissue data for contamination of Mercury (inorganic & organic) based on its Reference Dose (RfD) value of 0.3 mg/kg and not the FDA Action levels (1 ppm or 0.5 ppm) for issuance of Fish Consumption Advisories as utilized in the Princeton permit modification.

As compared to this, the 0.59 mg/kg Mercury concentration in Largemouth Bass (whole fish) is almost twice the RfD and would be of concern to human health. Thus, it is proposed instead to monitor and limit, on a quarterly basis, the final effluent utilizing EPA method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence. The expired permit limits for mercury will be carried over to the proposed renewal permit for a maximum of 36 months to allow the Permittee adequate time to implement any needed additional construction at the POTW and/or modification to local limits for industrial contributors in order to effectively meet the new proposed effluent limitations.

Chloride, fluoride, sulfate, and total dissolved solids:

These parameters are new for the permittee and have been proposed for initial monitoring because the review of all available data indicated high concentrations in the effluent and/or the receiving stream. These parameters will be reported as monthly average and daily maximums for the life of the permit to allow collection of effluent data for a reasonable potential determination to be made.

Toxicity Testing

All POTW's (Publicly Owned Treatment Works) with design influent flows equal to or greater than one million gallons per day and those, regardless of size, with an approved pretreatment program or those required to develop a pretreatment program must provide the results of a valid whole effluent biological toxicity test with the renewal application.

Within ninety days of the effective date of the permit, the permittee shall initiate the series of tests described in Part I.F. to monitor the toxicity of the discharge from Outfall 001. The toxicity tests specified above shall be conducted once every six months for the duration of the permit. After three of these tests have been completed, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent.

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The no observed effect level (NOEL) of 92% is based on the following equation:

$$IWC = \frac{Q_e}{Q_e + 1 / 4(Q_{7,10})}$$

Q_e = Facility Effluent Flow

Pretreatment

The permittee operates an approved Pretreatment Program. As in the previous permit, the parameters of cadmium, cyanide, mercury, nickel, and zinc have been included as the parameters to monitor in the influent. Influent will continue to be monitored on a twice monthly basis.

Based on a review of data from the permittee NPDES application, IDEM's 1994 and 1995 surveys and Indianapolis Public Works monitoring of the White River in this area, staff proposes to add chloride, fluoride, sulfate, total dissolved solids, and arsenic as parameters for influent monitoring.

The permittee shall develop and maintain local limits, as necessary, to implement the prohibitions and standards in 327 IAC 5-12. The permittee shall perform a technical reevaluation of local limits within nine (9) months of the effective date of this permit.

Solids Disposal

Solids disposal will be handled as follows: collected screenings, slurries, sludges, and other such pollutants shall be disposed of in accordance with methods established in 329 IAC 10 and 327 IAC 6.1, or another method approved by the Commissioner; the permittee shall comply with existing federal regulations governing solids disposal, and with applicable 40 CFR Part 503, the federal sludge disposal regulation standards; the permittee shall notify the Commissioner prior to any changes in sludge use or disposal practices; and, the permittee shall comply with the terms of all applicable land application permits. The permittee presently incinerates all its sewage sludge.

Collection System

The collection system consists of both separate sanitary and combined sewer systems. All CSO overflows, their locations, receiving bodies of water and all requirements pertaining to them are contained in Attachment A of the Belmont (AWT) Wastewater Treatment Plant NPDES permit at the request of the permittee. All bypasses to the treatment system which are noted in Part II.B.2(e) of the permit discharge into Little Buck Creek.

Compliance Status

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The permittee is not currently under any enforcement action that would affect the proposed limitations in the renewal permit.

Additional Monitoring

The permittee will continue to report all QA/QC testing performed for contractual purposes in its association with White River Environmental Partnership as a separate report and not on the DMRs and MROs normally submitted in conjunction with plant performance.

Power Failures

The NPDES Permit requires either an alternate power source to operate facilities utilized to maintain compliance with the permit, or the control of discharges in the event of power failure. The Southport AWT plant has a dual feed electrical supply.

Expiration Date

A five-year NPDES permit is proposed.

POST PUBLIC NOTICE ADDENDUM

August 30, 2001

The following changes have been incorporated into the final Southport NPDES Permit since the third public notice period, which commenced on December 18, 1999:

Table numbers were added to the last four tables in the permit (located in Part I.A.3 through Part I.A.6 of the permit) after it was discovered that only the first two tables were numbered. The remaining tables are numbered 3 through 6.

Most of the permit language which described the variety of permit conditions which could have resulted from the 1998 and 1999 variance applications submitted by the City of Indianapolis for certain effluent limits and permit conditions has been deleted. At the time of the issuance of this permit, the only variance requests which the permittee is continuing to pursue with regard to the limits that are applicable to the final plant effluent are for total cyanide and mercury. Since there is already a three-year compliance schedule in the permit, which would delay the new limits from immediately becoming effective, the footnote in Table 4 for these parameters has been revised to add a reference to the reopening clause in Part I.C.8 of the permit, which provides for the permit to be reopened to revise the effluent limits for these parameters depending upon the outcome of IDEM's evaluation of the variance request. All citations throughout the permit and fact sheet referencing the effect of the variance applications submitted by the City of Indianapolis on effluent limits have been deleted.

All references to the "Office of Water Management" have been replaced with references to the "Office of Water Quality" to reflect the office's name change which was effective on January 1, 2001.

Page 1 of the Permit

The signature block has been changed to Timothy J. Method, due to the fact that Matthew C. Rueff has resigned from IDEM.

After the identification of the permittees, the following wording was added to simplify the references to the permittees: “hereinafter collectively referred to as “the permittee””. Subsequent references in the permit have been amended to “the permittee” in the singular form.

Page 2 of the Permit

The Treatment Facility Description has been updated to more accurately reflect the design and operation of the wastewater treatment plant. Language has also been added concerning the permittee’s plans to change its primary method of disinfection to ozonation. Detailed descriptions have also been included which describe the permittee’s ability to divert flows between the collection systems and around certain units of treatment. The use of these diversions are subject to the bypass provisions of the permit. These provisions are in Part II.B.2 of the permit.

Part I.A.1

Table 1 - the Interim Limits for Ammonia-N have been deleted and the Final Limits have been modified to reflect the revised Wasteload Allocation conducted by OWQ on June 14, 2001. The ammonia-nitrogen limits have been revised in accordance with a recent reevaluation of the wasteload allocation study based upon additional information which was submitted by the City of Indianapolis. The City performed a study of the pH and temperature in the West Fork of the White River during the use of HPO units and requested more lenient final ammonia limits based on this study. As a result IDEM determined that the new final effluent limits should be 3.0 mg/l summer monthly average and 5.9 mg/l winter monthly average and 3,128 lbs/day summer monthly average and 6,150 lbs/day winter monthly average. Since these limits are only slightly more stringent than the current ammonia-nitrogen limits, which the permittee has clearly demonstrated it can meet, it has been determined that there is no longer a need for interim limits for ammonia-nitrogen based upon the current permit limits. Therefore, the interim limits have been deleted and the final permit only contains one set of limits, as described above in this paragraph.

Interim effluent limitations for total residual chlorine have been added to Table 2 to clarify the daily maximum value (1.0 mg/l) which is permitted at the chlorine contact tank during the term of the compliance schedule for dechlorination. Language was also added to Footnote [6] to clarify the maximum total residual chlorine limits during the interim period until the termination of the 12-month compliance schedule for the dechlorination requirements as per Part I.E of the permit.

Footnote [+] has been revised to delete the following language and move it to the fact sheet, where it more appropriately belongs: “The wet weather flow and percent removal rates shall be maintained as a separate data base and submitted as a part of the next NPDES permit

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application.” The purpose of doing this is to clarify that the permittee is required to comply with the 85% percent removal requirement, but the permittee only has to follow this suggested protocol if it wants to request a less stringent percent removal limit.

The final dissolved oxygen limits were deleted and the “interim” dissolved oxygen limits became the limits for the full term of the permit. This change was made due to the fact that IDEM has granted the City’s request pertaining to the final ammonia-nitrogen limits and due to antibacksliding considerations. The notes at the bottom of Table 2 have been revised due to the addition of a new compliance schedule for *E. Coli* in Part I.F of the permit. The Whole Effluent Toxicity Testing Requirements were relocated to Part I.G of the permit.

In conjunction with the deletion of all extraneous references to the submitted variances, the final water quality-based effluent limits for mercury and total cyanide have been reinstated during the period beginning three years after the effective date of the permit, and continuing until the expiration date. These limits are subject to the reopening clause in Part I.C.8. IDEM may reopen the permit and modify the limits after it makes a final determination on the variance applications.

Footnote [5] under Table 2 has been modified to clarify the permit requirements for situation when chlorine is used during the non-recreational season and to insert language referring to the new compliance schedule for *E. coli* in Part I.F. The permittee has expressed concerns about its ability to meet the *E. Coli* limits without a compliance schedule. Since the permittee has plans to install ozonation disinfection within 36 months from the effective date of the permit, language has been added to grant its request for a compliance schedule. Footnote [5] has also been modified to specify the acceptable test methods which can be used for the detection and enumeration of *E. coli*.

Footnote [7], language was added to clarify the permit requirements which are based upon the provisions of 327 IAC 5-2-11.1(f) for test results which are less than the LOQ value. This language was added based upon a request by the permittee, due to concerns about the potential for constant reevaluations.

Part I.A.2

The regulatory cite (327 IAC 2-1-6) upon which these requirements are based was also added to this section. The word “foam” was added to the list of items in the first sentence.

Part I.A.3

The title “Table 3” has been added at the top of the table of interim metals/toxics limits and “Table 4” has been added at the top of the table of final metals/toxics limits. In addition, a requirement was added to monitor and report total cyanide during the interim 36-month period. This requirement is also now reflected in the compliance schedule language in Part I.D of the permit.

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Since the City has requested a variance for total cyanide, IDEM staff have determined that this information will be extremely useful for the evaluation of the variance request and to monitor the levels being discharged. Footnote [2] has been modified to clarify that both amenable cyanide and total cyanide must be monitored, but only the amenable cyanide limits are applicable for initial 36 months of the term of the permit.

The wording in Footnote [5] for Table 3 and Footnote [7] for Table 4 has been clarified. The word “will” has been replaced with “shall” as it is more appropriate as a permit condition.

“T” has been added after the cyanide parameter in Table 4 to clarify that the final effluent limits are for total cyanide. The wording in Footnotes [2] and [4] has also been revised to make reference to the reopening clause in Part I.C.8 of the permit which may be used by IDEM depending upon the outcome of the evaluation of the City’s variance requests for total cyanide and mercury

Footnote [5] under Table 4 has been amended at the request of U.S. EPA to clarify how to determine compliance with the monthly average cyanide limit which is less than the limit of quantitation value.

Footnote [6] under Table 4 has been changed to clarify that the case-specific LOD is limited to the analytical method listed for cyanide.

Part I.A.4

The title “Table 5” has been added at the top of the table of influent monitoring requirements for metals and toxics.

Under Organic Pollutant Monitoring, Sampling and Analysis of Influent and Effluent, the wording concerning sampling at “normal levels” has been modified to specify “normal production levels”.

Part I.B.3

A new paragraph was added to the reporting requirements to clarify how the permittee is to handle partial weeks in the calculation of the seven-day weekly average.

Part I.B.4

The first paragraph has been amended to clarify which parameters’ averages must be calculated as an arithmetic mean, and which averages must be calculated as a geometric mean.

The definition of the term “Weekly Average” has been changed to be consistent with 327 IAC 5-2-11(a)(2). The IDEM will interpret the wording concerning “flow-weighted samples” in the new definition to mean the permittee shall calculate the weekly average by taking the arithmetic mean of the samples taken during the calendar week.

Part I.B.5

The reference to Standard Methods for the Examination of Water and Wastewater was changed to the 18th edition, published in 1992 to be consistent with 327 IAC 5-2-1.5(6).

Part I.C

Reopening Clauses - Minor changes were made to #3 and #5 by replacing the term “toxicant” with “pollutant” and #8 was modified to reflect the current status of the variance applications. Revisions were also made to Part I.C.1 to include “new or increased discharges of a pollutant(s) by industrial users” as a cause for reopening the permit.

Part I.D

The schedule of compliance was modified to remove Dissolved Oxygen and Ammonia-N. This was done as a result of the revised WLA for ammonia-N, as previously discussed. “Total” was inserted before each instance of the word “cyanide” to clarify that this compliance schedule is for total cyanide, except in the last sentence of Part I.D.1 where the requirement to monitor for both amenable cyanide and total cyanide during the interim period is specified. Additional language was added to further clarify the content requirements of the progress reports, which includes an evaluation of whether control technologies or pollution prevention measures have changed since the original evaluation in the variance application. This can include literature review and/or newly implemented programs in other cities or states.

Part I.E

Language was added to clarify the content requirements of the progress reports

Part I.F

The schedule of compliance for *E.coli* has been added based on the information submitted to OWQ in a letter dated April 25, 2001 and based on supplemental information contained in the Preliminary Engineering Report #3A submitted to IDEM-OWQ as part of a SRF loan application. Language has also been added to explain that chlorination (with dechlorination) will continue to be the secondary method of disinfection at the AWT plants after the installation of the ozonation units. Wording has also been included to require the permittee to immediately comply with the *E. coli* limits if the permittee has not finalized the design of the ozonation system by 18 months from the effective date of the permit.

Part I.G

The Chronic Biomonitoring Program Requirements, the language pertaining to the timing of the

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Whole Effluent Toxicity Tests has been revised from “90 days” to “180 days” after the effective date of the permit, and the permittee shall “initiate” rather than “conduct” the series of bioassay tests on the discharge from Outfall 001.

Part II.A.1

Wording has been added to the first sentence to require the permittee to comply with “all applicable requirements of 327 IAC 5-2-8” since the current boilerplate language in Part II is missing some of the requirements in the rule.

Part II.A.11

This paragraph has been amended to reflect revisions which were made to IC 13-30 by the state legislature and became effective on July 1, 2000. The terms “willfully or negligently” were replaced with “intentionally, knowingly, or recklessly” and the potential fines were increased.

Part II.A.14

The reference to the 327 IAC 8-12-3 was changed to 327 IAC 5-22 to reflect the recent regulatory changes to the wastewater certification rule.

Part II.A.15

The permit language was modified pertaining to the plans and specification submittal requirement, since there have recently been revisions to the rules (327 IAC 3) pertaining to requirements for obtaining construction permits. The language has also been clarified to specify which construction projects require a notification to IDEM when construction has been completed.

Part II.B.1

The language in Part II.B.1.a has been revised to be consistent with 327 IAC 5-2-8(8). In Part II.B.1.d, the term “preventative maintenance” replaces the term “to prevent deterioration of”.

Part II.B.2 and Part II.C.9

Changes were made throughout these sections to replace references to the “Two-Hour Reporting Requirements” with references to the “Spill Reporting Requirements” and to have language that is consistent with the provisions of 327 IAC 2-6.1. Part II.C.9 has also been modified to provide more clarity when spills need to be reported and to whom at IDEM.

Part II.B.2.g has been amended to include a description of the primary effluent bypass (Outfall 002A & B). Language was also added to Part II.B.2 which added 4 subsections (h through k)

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which authorizes diversion of wastewater around certain unit treatment processes provided that certain conditions are met.

Part II.B.5

The regulatory citation was amended to reflect the correct regulatory cite.

Part II.C.1

Language was added to require the permittee to request an NPDES permit modification if it makes any significant changes to the treatment facility, including the change of disinfection method to ozonation.

Part II.C.3

The phrase “(Reports under this item must be made as soon as the permittee becomes aware of the noncomplying circumstances)” was added to Part II.C.3.b for clarity and to comply with 327 IAC 5-2-8(10)(C)(iii).

The language in Part II.C.3.d has been amended to require “any discharge from the sanitary sewer system” to be reported within 24 hours.

Part II.C.5

A second paragraph has been added to require the permittee to submit to IDEM a detailed description of the operational capacity of each unit process of the wastewater treatment system.

Part III - Requirement to Operate a Pretreatment Program

There were several changes to the regulatory cites which reflect the recent promulgation of the Pretreatment Rules, which are now found at 327 IAC 5-16 through 5-21.

The requirement for the City to conduct a technical reevaluation of their local limits was extended from nine (9) to twelve (12) months.

Part III.B was deleted from the Southport permit, due to the fact that the City is conducting one Pollutant Loading Study which encompasses both of the AWT plants and their collection systems. This requirement has been retained only in the NPDES permit renewal for Belmont.

Attachment A

References to Outfalls 003A and 003B were moved from Part II.B.2.g of the permit to Attachment A based upon additional information which was recently submitted to IDEM by the permittee. Since the origination point of these outfalls is located prior to the headworks of the AWT plant, IDEM has reclassified these outfalls from “bypasses” to “combined sewer overflows,” based on the permittee’s contention that these outfalls should be classified as combined sewer overflows. The permittee must submit sufficient documentation and additional information to IDEM in order to determine the appropriateness of the reclassification of these discharge points as combined sewer overflows. IDEM may modify the permit if information indicates the outfalls should not be classified as combined sewer overflows.

Language has been added to require the permittee to amend its Stream Reach Characterization and Evaluation Report (SRCER), Combined Sewer Overflow Operational Plan (CSOOP), and Long Term Control Plan (LTCP) to include the combined sewers within the Southport collection system.

Part V was added to include a compliance schedule. This compliance schedule does not apply to the prohibition contained in Part I.B of Attachment A on CSO discharges causing or contributing to the impairment of designated or existing uses. It is only a compliance schedule for the prohibition against discharges from CSOs causing or contributing to violations of water quality standards and only applies to the numeric *E. coli* criteria in 327 IAC 2-1-6(d).